Christopher R. Culpepper

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CAREER OBJECTIVE

To continue my career in Electrical or Computer Engineering: designing electronic hardware, working with RF devices, or creating embedded software, preferably in the aerospace or subsurface domain.

EXPERIENCE

Electrical Engineer *October 2019 - Present*
FTL Labs Corporation, Amherst MA

- Designed and built rather large lithium-ion battery for underwater applications, design with safety in mind
- Developed and implemented testing for said battery, including pressure, electrical, thermal and capacity
- Designed interface electronics, analog piezo load cell interface, COTS LED module dimmer
- Reverse engineered commercial laser diode driver to implement circuit
- Designed control loop to keep laser diode at constant optical power over temperature
- Created large physical contaminant database, managed spectographic collection
- Designed an automated data collection system to treat jet fuel to test treatment efficacy

Senior Electrical Engineer (Previous Systems Engineer , Co-Op) July 2013 - August 2019, FT 2017-19
General Dynamics Mission Systems, Pittsfield MA

- Developed and executed evaluation and qualification tests for inherited hardware
- Performed integration and repair operations on legacy hardware
- Performed tasking at customer locations and pre-deployment locations
- Performed software and systems testing on high-integrity mission-critical software

Test Engineer Co-op *January 2016 - May 2016*
Space Exploration Technologies, Hawthorne CA

- Designed and built hardware to test bias-T HD cameras
- Created software to automate the creation of trouble reports

EDUCATION

Bachelor of Science, Computer Engineering
Rochester Institute of Technology, Rochester NY, Graduated May 2017

Digital Signal Processing	Cyborg Theory
Data Communication and Networks	HW & SW Design for Crypto Applications
Digital System Design	General Chemistry for Engineers

PROJECTS

24 Hours of Lemons Racecar

- Procured $500 car, built it into an endurance racecar
- Designed and built roll cage, selected performance components

Yaesu VX-8 Battery

- Designed, built and tested a battery for a handheld Amateur Radio
- Designed a PCB tha tfeatures USB-C charging, balacing and temperature monitoring
- Desined a 3D printed case featuring compliant clips, light pipes and a tight internal layout

Wideband Oxygen Sensor Controller

- Designed, built and programmed sensor controller that measured oxygen concentration
- Incorporated PID loops to keep a sensor at a constant temperature and oxygen concentration

Assembly Language Pong Game

- Created a 1.5D Pong game for a school project in HCS12 assembly

Various Other Projects:

Motorcycle Speedometer	3D Printer modifications
Metal Melting Foundry	Race Car data logger and comms board
RIT Rocket Initiative power board	Electric Fence Controller

SKILLS & AWARDS

Eagle Scout	A+ Certified

Languages & Software:

C	AutoIt Automation Scripting
Kicad PCB Design Software	OpenSCAD Parametric modeling software
Linux	Visual Basic for Applications (VBA)
VHDL	DOORs Requirement Management
Python	Networking Equipment Configuration

PERSONAL INTERESTS AND HOBBIES

Amateur Radio Extra	Holography (early stages)
3D Printering	Working towards pilot licence
Photography (Analog, digital)	Licked thing that was in space